

1. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-8 + 9x < \frac{30x - 8}{3} \leq -9 + 6x$$

- A. $(a, b]$, where $a \in [-7.5, -3.75]$ and $b \in [-6, 1.5]$
 - B. $(-\infty, a] \cup (b, \infty)$, where $a \in [-9.75, -1.5]$ and $b \in [-8.25, -0.75]$
 - C. $[a, b)$, where $a \in [-6.75, -4.5]$ and $b \in [-3, 0]$
 - D. $(-\infty, a) \cup [b, \infty)$, where $a \in [-6, -3.75]$ and $b \in [-4.5, -0.75]$
 - E. None of the above.
-

2. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{9}{2} - \frac{5}{4}x \geq \frac{-4}{8}x - \frac{5}{9}$$

- A. $(-\infty, a]$, where $a \in [6, 8.25]$
 - B. $(-\infty, a]$, where $a \in [-10.5, -3.75]$
 - C. $[a, \infty)$, where $a \in [6, 8.25]$
 - D. $[a, \infty)$, where $a \in [-8.25, -5.25]$
 - E. None of the above.
-

3. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{7}{6} - \frac{5}{7}x < \frac{7}{9}x - \frac{3}{5}$$

- A. $(-\infty, a)$, where $a \in [-4.5, 0.75]$
- B. $(-\infty, a)$, where $a \in [0.75, 3]$
- C. (a, ∞) , where $a \in [0, 3.75]$
- D. (a, ∞) , where $a \in [-3, -0.75]$

E. None of the above.

4. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

No less than 8 units from the number -4 .

- A. $(-12, 4)$
 - B. $(-\infty, -12) \cup (4, \infty)$
 - C. $(-\infty, -12] \cup [4, \infty)$
 - D. $[-12, 4]$
 - E. None of the above
-

5. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-9 + 3x > 5x \text{ or } 3 + 9x < 12x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-5.25, -3]$ and $b \in [-6, 3]$
 - B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-1.5, 3.75]$ and $b \in [3.75, 7.5]$
 - C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-5.62, -3.82]$ and $b \in [-1.5, 1.5]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-3.9, -0.6]$ and $b \in [2.25, 6]$
 - E. $(-\infty, \infty)$
-

6. Using an interval or intervals, describe all the x -values within or including a distance of the given values.

No more than 9 units from the number 1.

- A. $(-\infty, -8) \cup (10, \infty)$
- B. $(-\infty, -8] \cup [10, \infty)$
- C. $[-8, 10]$

- D. $(-8, 10)$
 - E. None of the above
-

7. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-8 - 4x \leq \frac{-21x + 7}{6} < -9 - 9x$$

- A. $[a, b)$, where $a \in [17.25, 21]$ and $b \in [0.67, 5.7]$
 - B. $(-\infty, a) \cup [b, \infty)$, where $a \in [14.25, 21.75]$ and $b \in [0, 4.5]$
 - C. $(a, b]$, where $a \in [14.25, 19.5]$ and $b \in [0, 3]$
 - D. $(-\infty, a] \cup (b, \infty)$, where $a \in [17.25, 19.5]$ and $b \in [0, 4.5]$
 - E. None of the above.
-

8. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$4x - 4 < 5x + 3$$

- A. (a, ∞) , where $a \in [-7, -1]$
 - B. $(-\infty, a)$, where $a \in [5, 10]$
 - C. $(-\infty, a)$, where $a \in [-7, -3]$
 - D. (a, ∞) , where $a \in [4, 10]$
 - E. None of the above.
-

9. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$7x + 8 \leq 10x + 7$$

- A. $(-\infty, a]$, where $a \in [-0.6, -0.1]$

- B. $[a, \infty)$, where $a \in [-0.75, 0.22]$
 - C. $(-\infty, a]$, where $a \in [-0.3, 1.5]$
 - D. $[a, \infty)$, where $a \in [-0.14, 0.86]$
 - E. None of the above.
-

10. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-3 + 9x > 11x \text{ or } 8 + 6x < 7x$$

- A. $(-\infty, a] \cup [b, \infty)$, where $a \in [-6, -0.75]$ and $b \in [3, 10.5]$
 - B. $(-\infty, a] \cup [b, \infty)$, where $a \in [-10.5, -3]$ and $b \in [-1.5, 3]$
 - C. $(-\infty, a) \cup (b, \infty)$, where $a \in [-9, -6.75]$ and $b \in [0, 2.25]$
 - D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-6, -0.75]$ and $b \in [3.75, 9.75]$
 - E. $(-\infty, \infty)$
-